

Claims

1. A fuel cell power plant, comprising:
  - a plurality of fuel cells, each cell having an anode, a cathode and a proton exchange membrane disposed between the anode and the cathode;
  - 5 fuel reactant flow fields on the anode side of said membrane and oxidant reactant flow fields on the cathode side of said membrane, each of said flow fields having an inlet and an outlet;
  - a source of hydrogen-rich fuel gas, said hydrogen-rich fuel gas being applied to said fuel reactant flow fields;
  - 10 a source providing oxidant reactant gas to said oxidant flow fields;
  - an impeller connected to at least some of said fuel flow field outlets for pumping partially depleted fuel to at least some of said fuel flow field inlets;
  - 15 said impeller comprising the compressor of a turbocompressor, the turbine of which is driven by either (a) said source of hydrogen-rich fuel gas, or (b) oxidant reactant gas flowing from said oxidant flow field exits.
2. A fuel cell power plant according to claim 1, wherein:  
said source providing oxidant reactant gas is an air pump.
3. A fuel cell power plant according to claim 1 wherein:  
said source providing oxidant reactant gas is an air blower.
4. A fuel cell power plant according to claim 1, wherein:  
said impeller is connected between all of said fuel flow field outlets and all of said fuel flow field inlets.